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| 10/810,904      | 03/26/2004  | Linda S. Thomashow   | 0077.04             | 1051             |

25278 7590 10/02/2007  
USDA-ARS-OFFICE OF TECHNOLOGY TRANSFER  
PATENT ADVISORS OFFICE  
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| EXAMINER |
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WALICKA, MALGORZATA A

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| ART UNIT | PAPER NUMBER |
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1652

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10/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/810,904

**Applicant(s)**

THOMASHOW ET AL.

**Examiner**

Malgorzata A. Walicka

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: comments on allowable subject matter.

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The application is a divisional of the US case 09/965,175 now US Patent 6,737,260, and claims benefits of US provisional application 60/236,634. Claims 8 and 9 as filed on Oct. 27, 2006 were allowed on Nov. 9, 2006. A notice of Withdrawal from Issue was mailed Feb. 9, 2007. The following is reconsideration of the claims and specification.

### **Detailed Action**

### **Objections**

Claim 8 is objected to because the abbreviation PhzO that is quoted for the first time in the claims and is not expanded. Please provide the full name of the activity and write the abbreviation in parenthesis.

### **Rejections**

#### **35 USC 112, second paragraph**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 is confusing in part e) as to the nucleic acid sequence that encodes a polypeptide having PhzO activity. SEQ ID NO: 1 encodes this activity, but a nucleotide

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sequence, which hybridizes to SEQ ID NO: 1 does not. It is a nucleic acid sequence that hybridizes to a sequence complementary to SEQ ID NO: 1 that encodes a polypeptide having PhzO activity.

Claims 8 and 9 are also rejected as confusing in reciting "an amino acid sequence of SEQ ID NO: 2" in part b) and a) respectively. The indefinite article "an" means that there are is not one SEQ ID NO: 2 but there are many SEQ ID NO: 2. The scope of the term "an SEQ ID NO: 2" seems to include fragments of SEQ ID NO: 2.

### **35 USC 112, first paragraph**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are directed to an isolated polypeptide having PhzO activity, wherein the polypeptide is encoded by a nucleotide sequence encoding a polypeptide comprising an amino acids sequence of SEQ ID NO: 2. The claims are rejected, because, as explained in the rejection under 35 USC 112 second paragraph, the

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indefinite article "an" means that there is not one SEQ ID NO: 2, but there are many polypeptides identified by SEQ ID NO: 2; for example, fragments of SEQ ID NO: 2.

The specification fails to teach, and event does not mention, any fragments of SEQ ID NO: 2. Thus part b) of claim 8 and part a) of claim 9) are lacking sufficient description of structure. There is only one SEQ ID NO: 2 disclosed in the application and SEQ ID NO: 2 as such does not provide and identifying structural characteristics for its fragments.

In conclusion, the invention has not been described in such full, clear concise and exact terms that one having skills in the art was convinced that applicants were in possession of the claimed invention at the time the application was filed.

The examiner suggested to correct the language of the claims by reciting "a polypeptide comprising **the** amino acid sequence of SEQ ID NO: 2".

## **Conclusion**

Claims 8 and 9 are rejected for the reasons explained above, but contain allowable subject matter. The allowable subject matter has been stated in the Office Action Nov. 9, 2006. The examiner wishes to add that applicants are the first to disclose the enzyme of SEQ ID NO: 2 from *Pseudomonas chlororaphis*, having the ability to convert phenazine-1-carboxylic acid to a 2-hydroxylated phanazine. The latter compound is an antibiotic metabolite providing protection against soilborne root diseases. The DNA molecule encoding the claimed enzyme has been already patented in the US Patent No. 6,737,260 issued on the parental case 09/965,175.

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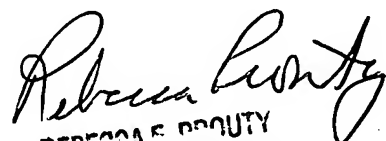
The closest prior art is the article by Chin-A-Woeng T. et al., Biocontrol by Phenazine 1-carboxamide-Producing *Pseudomonas chlororaphis* PCL1391 of Tomato Root Rot Caused by *Fusarium oxysporum* f. sp. *radicis-lycopresci*, Mol. Plant Microbe Interact. 1998 11(1): 1069-1077; enclosed in IDS of 12/14/2005. The article discloses that *Pseudomonas chlororaphis* produces phenazine-1-carboxylic acid, but the article does not disclose the enzyme that converts that compound into 2-hydroxylated phenazine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malgorzata A. Walicka whose telephone number is (571) 272-0944. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 4:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, can be reached on (571) 272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Malgorzata A. Walicka, Ph.D.

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Patent Examiner

  
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